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## MEMORANDUM

SUBJECT: Preliminary Assessment of 19 and 20 July 1967 BLACK SHIELD Photography

## Summary

Two BLACK SHIELD missions flown about 24 hours apart on 19 and 20 July obtained cloud-free photography of about 80 percent of North Vietnam, including most of the high priority surface-to-surface missile search areas, much of the North Vietnamese air defense system, and many US strike and interdiction target areas. No evidence of surface-to-surface missile deployment was detected.

NSA review(s) completed.

Note: This memorandum was prepared by the Directorate of Intelligence with the assistance of the Directorate of Science and Technology.

1. Mission 6709 on 19 July obtained photography of about 75 percent of North Vietnam, including the southern DRV down to the DMZ and the Hanoi-Haiphong area. Weather conditions were excellent with the exception of a few scattered areas. Mission 6710 on 20 July covered the DMZ and the area to the north, the Hanoi-Haiphong area, and parts of the Sino-DRV border. Light to heavy haze and cloud cover hampered intelligence exploitation of the 20 July photography, however, expecially in the Sino-DRV border area.

mission over South China on 20 July provided some coverage of the border, however.)

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- 2. No evidence of surface-to-surface missile deployment was obtained by either BLACK SHIELD mission. The two missions covered most of the high priority MRBM search areas west and north of Hanoi and the tactical and coastal defense missile search areas in the southern and central DRV.
- 3. North Vietnamese air defenses: The mission of 19 July photographed 166 of the almost 200 usable surface-to-air missile (SAM) sites, including four new sites in the Yen Bai area. Of the 137 sites which could be read out, 12 were occupied (including 2 new ones), 124 were unoccupied, and one near Yen Bai has been returned to cultivation. The mission of 20 July covered 80 SAM sites, including two new ones (one occupied) in the Haiphong area. Five sites were occupied, 63 unoccupied, and the occupancy of 12 could not be determined.
- 4. The level of SAM site occupancy falls slightly below our estimate that the North Vietnamese have between 25 and 35 SAM firing battalions, but we cannot tell how many units may have been shifting locations at the time of the photography. Previous BLACK SHIELD missions have photographed up to 20 firing battalions at one time, and communications intelligence has reflected up to 28 battalions active during a one-week period.
- 5. The two missions together covered the seven major North Vietnamese airfields, but a firm air order of battle (AOB) cannot be derived because

weather conditions and variations in flight paths prevented simultaneous coverage of all seven. Despite these limitations, it appears that the current estimate of fighter strength is fairly accurate. The photography revealed that the mix of fighter types is somewhat different than we have been estimating, however. For example, 10 MIG-21 and 25 MIG-15/17 fighters were photographed on the 19th. Our estimate as of that day was that a total of 29 fighters remained in the DRV--16 MIG-21s and 13 MIG-15/17s.

- 6. On the basis of this photography—and taking account of subsequent losses as well as aircraft airborne at the time of the photography—it appears that there are now between 25 and 35 jet fighters stationed in the DRV. Of these, at least 10 are MIG-21s.
- 7. Bomb damage assessment (BDA): The two missions obtained extensive coverage of targets of the US strike effort in North Vietnam. All 23 of the targets being followed at first priority in CIA's BDA studies were covered, as well as nearly all of those being followed at second priority.
- 8. Coverage of the Hanoi power plant provided the best photography since the US strike of 10 June. Repair work is under way on both the damaged boiler-house and the control building. The photography confirmed damage to three boilers which supplied steam for about half the generating capacity. Excellent photography of the Nam Dinh powerplant revealed destruction of the coal processing building in a strike on 26 June. Cumulative heavy damage to this facility will probably prevent even partial operation for at least six months. Coverage of the Ben Thuy powerplant showed no change indicating that air strikes in early July inflicted no significant additional damage.
- 9. Transportation: As in previous BLACK SHIELD missions, wide coverage of rail and road transport routes and facilities was obtained. Detailed analysis of key targets such as bridges and rail yards is under way to assess the current status and

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serviceability of the North Vietnamese rail system. Good coverage of the major rail lines between China and the DRV has provided information for analysis of the level of rail transport activity and the inventory of rolling stock available in the DRV. Although the coverage was extensive, however, the resolution is not good enough to determine the extent of the present program to equip the North Vietnamese meter-gauge railway system with an extra track to accommodate Chinese standard-gauge rolling stock.

- 10. Haiphong--the major ocean port of entry--was covered, but haze hampered analysis. Pinghsiang, the major Chinese storage area and transportation hub near the northeastern DRV border, was photographed, but scattered clouds prevented a complete count of trucks and rolling stock.
- 11. Chinese activity in North Vietnam: A figure-8 driver training course was observed for the first time near the area of military camps and storage facilities probably built by Chinese engineers in the Lao Cai area at the northwest Sino/DRV border. The course, which is probably designed to train cargo truck drivers, is similar to other courses in North Vietnam and south China. Interrogation reports have mentioned North Vietnamese truck driver students being sent to south China for training. It is possible that this training is now being carried out in the sanctuary zone of northern North Vietnam.

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